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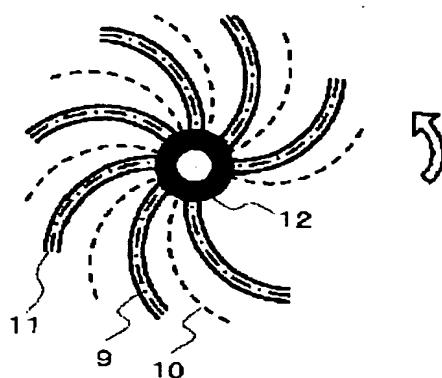
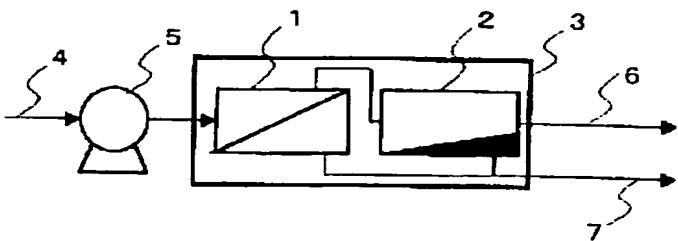
APPLICATION DATE : 17-03-99
APPLICATION NUMBER : 11071943

APPLICANT : TORAY IND INC;

INVENTOR : MINEGISHI SHINICHI;

INT.CL. : B01D 61/02 B01D 61/08

TITLE : REVERSE OSMOSIS MEMBRANE SEPARATOR AND METHOD FOR SEPARATING WATER



ABSTRACT : PROBLEM TO BE SOLVED: To control concentration polarization and to demonstrate enough performance by packing reverse osmosis membrane elements in a reverse osmosis membrane module in series in the passage direction of raw water and setting up the thickness of a passage material on the raw water side to meet a specified relation.

SOLUTION: Reverse osmosis membrane elements 1, 2 are packed in series in a reverse osmosis membrane module 3, and raw water 4 supplied from a high pressure pump 5 is separated into concentrated water 6 and filtrate 7. Each of the elements 1, 2 is composed at least of a reverse osmosis membrane 9, a raw water passage material 10, a filtrate passage material 11, and a filtrate catchment pipe 12. The thickness of the material 10 is set up within 0.2-2.0 mm to obtain the filtrate 7 efficiently. Namely, the value of (the raw water passage material thickness of the element 1 arranged on the side of a module inlet)/(the raw water passage material thickness of the element 2 arranged on the side of a module outlet) is set up, for example, at 1.05 or above.

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